



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/919,565 | 07/31/2001 | Vishal Bansal | SS3035USNA | 4917 |

23906 7590 02/02/2004

E I DU PONT DE NEMOURS AND COMPANY
LEGAL PATENT RECORDS CENTER
BARLEY MILL PLAZA 25/1128
4417 LANCASTER PIKE
WILMINGTON, DE 19805

EXAMINER

TORRES VELAZQUEZ, NORCA LIZ

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1771

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/919,565

Applicant(s)

BANSAL ET AL.

Examiner

Norca L. Torres-Velazquez

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 17-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-16 and 24-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 2 of remarks, filed November 3, 2003, with respect to the rejection(s) of claim(s) 1-3, 5-16 and 24-33 under 35 U.S.C. 103(a) over Rudisill et al. have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5-14 and 24-33 are rejected under 35 U.S.C. 102(b) as being anticipated by SHAWYER et al. (US 5,405,682).

SHAWYER et al. discloses a nonwoven fabric of SHAWYER et al. made with multicomponent polymeric strands including first and second polymeric components arranged in substantially distinctive zones across the cross-section of the multicomponent strands. The second component of the strands constitutes at least a portion of the peripheral surface of the multicomponent strands continuously along the length of the multicomponent strands and include a blend of a polyolefin and a thermoplastic elastomeric polymer. (Column 3, lines 27-42) The reference discloses that the nonwoven webs may be formed by a variety of processes such as meltblowing processes, spunbonding processes and staple fiber carding processes. (Column 6, lines 35-36) Additionally, as evidence by Sudduth et al. (5,770,531), meltblown fiber inherently have a diameter of smaller than 10 microns (column 3, lines 15-20) and spunbond filaments

Art Unit: 1771

inherently have a diameter of larger than 7 microns, particularly between 10 and 20 microns. (Column 3, lines 2-5). Thus, the fibers taught by SHAWYER et al. made by a meltblowing process would inherently have the claims diameters.

SHAWYER et al. teaches that the first component A of the multicomponent strands preferably has a melting point higher than the second component. The first component A includes a polyolefin and the second component B includes a blend of a polyolefin and a thermoplastic elastomeric material. Suitable polyolefins for the first component A may comprise polymers such as polyesters. Suitable polyolefins for the second component B include polyethylene and random copolymers of propylene and ethylene. (Column 7, lines 3-22) The reference further teaches the use of poly(ethylene-butylene) for the thermoplastic elastomeric polymer. (Column 3, lines 27-47) The Examiner equates the first component A of SHAWYER et al. to the second polymer component of the present invention and the second component B of SHAWYER et al. to the first polymer component of the present invention.

The reference further teaches that the first component preferably comprises a polyolefin but may also comprise other thermoplastic polymers such as polyesters. (Column 4, lines 9-11) The first polymeric component of the multicomponent strands of the invention are present in an amount of from about 20 to about 80% by weight of the strands and the second polymeric component is present in an amount from about 80 to about 20% by weight of the strands. (Column 4, lines 22-27) The reference further teaches that the bonds between the multicomponent strands may be formed by the application of heat. The addition of the thermoplastic elastomeric polymer enhances the give of the bonds between the multicomponent strands. (Column 3, lines 27-47)

Art Unit: 1771

In another embodiment of their invention, the reference teaches a structure with two webs thermally point bonded together to form a cloth-like material. The reference teaches that the second web may be a spunbond material. (Refer to Column 13, lines 21-30, 49-54)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over SHAWYER et al. as applied to claims 1-3 and 5-14 above, and further in view of NEWKIRK et al. (US 6,417,121 B1).

SHAWYER et al. fails to teach that the first and second polymers consist essentially of non-elastomeric polymers.

NEWKIRK et al. provides multicomponent fibers arranged in structured domains. At least one of the polymer components is formed of a multipolymer blend. (Abstract) The multicomponent fibers of the invention include at least two polymer components arranged in structured domains. At least one of the polymer components is formed of a select blend of specific grades of polyethylene and polypropylene, which give improved fabric performance. The reference teaches that these blends have excellent melt spinning and processing properties, which permit efficiently producing nonwoven fabrics at high productivity levels. (Column 3, lines 17-25) The reference teaches that the multicomponent fibers can be continuous filaments, staple fibers, or meltblown fibers. (Column 3, lines 37-38) The reference teaches that the

Art Unit: 1771

blending of relatively small proportion of polypropylene with the polyethylene imparts greatly increased abrasion resistance. (Column 3, lines 26-29) The reference also teaches the use of polyethylene terephthalate core in a sheath/core fiber. It also teaches other structured fiber configurations such as side-by-side. (Column 7, lines 8-15) A preferred embodiment of the invention is a sheath/core bicomponent fiber in which the sheath is formed of a polymer blend. (Column 7, lines 50-53) The multicomponent blend component of the multicomponent fibers of the invention is predominantly formed from polymers that normally are considered nonelastic. (Column 7, lines 56-58)

Since both, SHAWYER et al. and NEWKIRK et al., are directed to nonwoven fabrics made from multicomponent fibers, the purpose disclosed by NEWKIRK et al. would have been recognized in the pertinent art of SHAWYER et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the polymer components and provide with nonelastic polymer components the motivation of having better spinning, bonding and strength characteristics to the component and increase the abrasion resistance of the components as disclosed by NEWKIRK et al. (Column 3, lines 26-29 and 49-54)

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 1771

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0994.



Norca L. Torres-Velazquez
Examiner
Art Unit 1771

January 26, 2004